

What is claimed is:

*[Handwritten signature]*  
5 ~~1.~~ A breathable, bead/adhesive/void space padding material comprised of a plurality of adhesive coated beads having average diameters between about 1 and about 10 mm and of which at least 50 percent are at least 50 percent coated with an adhesive that is cured from a liquid state (wherein the adhesive is not in a melted state) while in initial contact with the beads, and wherein a cured form of said adhesive has a hardness ranging from about Shore A 20 to about Shore A 95 and is used in a quantity such that it represents between about 20 and about 80 weight percent of the padding material and thereby serving to create a system of void spaces that constitutes from about 10 to about 40 volume percent the total volume of said padding material.

10 2. The padding material of claim 1 wherein the adhesive coated beads have average diameters between about 1 and about 6 mm.

3. The padding material of claim 1 wherein said beads are inelastic.

4. The padding material of claim 1 wherein said beads are elastic.

5. The padding material of claim 1 wherein said beads are made of polymeric materials selected from the group consisting of polyethylene, propylene and ethyl propylene copolymer.

6. The padding material of claim 1 wherein said system of void spaces is substantially comprised of substantially regularly distributed void spaces.

7. The padding material of claim 1 wherein the beads have diameters ranging from about 1 mm to about 3 mm.

8. The padding material of claim 1 wherein said beads are solid.

9. The padding material of claim 1 wherein said beads are hollow.

10. The padding material of claim 1 wherein said beads are made of a ceramic material.

11. The padding material of claim 1 wherein said beads are made from a glass material.

12. The padding material of claim 1 wherein said beads are made of a plastic material.

13. The padding material of claim 1 wherein the beads have one or more holes passing through their bodies.

14. The padding material of claim 1 wherein said beads are made of a thermosetting material.

15. The padding material of claim 1 wherein said beads are made of a thermoplastic material.

16. The padding material of claim 1 wherein the adhesive is made from a two part resin.

17. The padding material of claim 1 wherein the adhesive is made from a thermosetting synthetic resin.

18. The padding material of claim 1 wherein the adhesive is made from a thermoplastic synthetic material.

19. The padding material of claim 1 wherein said beads are of different sizes.

20. The padding material of claim 1 wherein said beads are corona plasma treated.

21. The padding material of claim 1 wherein said beads are coated with a coupling agent to promote bead/adhesive bonding.

22. The padding material of claim 1 wherein said beads are flame treated.

23. The padding material of claim 1 wherein said beads are plasma jet treated.

24. The padding material of claim 1 wherein said beads are spherical.

25. The padding material of claim 1 wherein said beads are ellipsoid.

26. The padding material of claim 1 wherein said beads are made of different materials.

27. The padding material of claim 1 wherein said material is placed in a cloth-like casing.

28. The padding material of claim 1 wherein said material is placed in a net-like casing.

29. The padding material of 1 wherein said material is used in conjunction with a hard plastic, outer shell.

30. The padding material of claim 1 wherein at least 50 percent of the beads are at least 80 percent covered by the adhesive.

31. A breathable, bead/adhesive/void space padding material for sports equipment comprised of a plurality of adhesive coated beads having average diameters between about 1 and about 10 mm and of which at least 50 percent are at least 50 percent coated with an adhesive that is cured from a liquid state (wherein the adhesive is not in a melted state) while in initial contact with the beads, and wherein a cured form of said adhesive has a hardness ranging from about Shore A 20 to about Shore A 95 and is used in a quantity such that it represents between about 20 and about 80 weight percent of the padding material and thereby serving to create a system of void spaces that constitutes from about 10 to about 40 volume percent the total volume of said padding material.

32. A breathable, bead/adhesive/void space padding material for medical equipment comprised of a plurality of adhesive coated beads having average diameters between about 1 and about 10 mm and of which at least 50 percent are at least 50 percent coated with an adhesive that is cured from a liquid state (wherein the adhesive is not in a melted state) while in initial contact with the beads, and wherein a cured form of said adhesive has a hardness

10 ranging from about Shore A 20 to about Shore A 95 and is used in a quantity such that it represents between about 20 and about 80 weight percent of the padding material and thereby serving to create a system of void space that constitutes from about 10 to about 40 volume percent the total volume of said padding material.

33. A breathable, bead/adhesive/void space padding material for use in packaging other objects, said material being comprised of a plurality of adhesive coated beads having average diameters between about 1 and about 10 mm and of which at least 50 percent are at least 50 percent coated with an adhesive that is cured from a liquid state (wherein the adhesive is not in a melted state) while in initial contact with the beads, and wherein a cured form of said adhesive has a hardness ranging from about Shore A 20 to about Shore A 95 and is used in a quantity such that it represents between about 20 and about 80 weight percent of the padding material and thereby serving to create a system of void spaces that constitutes from about 10 to about 40 volume percent the total volume of said padding material.

34. A breathable, bead/adhesive/void space construction material comprised of a plurality of adhesive coated beads having average diameters between about 1 and about 10 mm and of which at least 50 percent are at least 50 percent coated with an adhesive that is cured from a liquid state (wherein the adhesive is not a melted state) while in initial contact with the beads, and wherein a cured form of said adhesive has a hardness ranging from about Shore A 20 to about Shore A 95 and is used in a quantity such that it represents between about 20 and about 80 weight percent of the padding material and thereby serving to create a system of void spaces that constitutes from about 10 to about 40 volume percent the total volume of said padding material.

35. A breathable, bead/adhesive/void space filter material comprised of a plurality of adhesive coated beads having average diameters between about 1 and about 10 mm and of which at least 50 percent are at least 50 percent coated with an adhesive that is cured from a liquid state (wherein the adhesive is not in a melted state) while in initial contact with the beads, and wherein a cured form of said adhesive has a hardness ranging from about Shore A 20 to about Shore A 95 and is used in a quantity such that it represents between about 20 and about 80 weight percent of the padding material and thereby serving to create a system of void space that constitutes from about 10 to about 40 volume percent the total volume of said padding material.

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